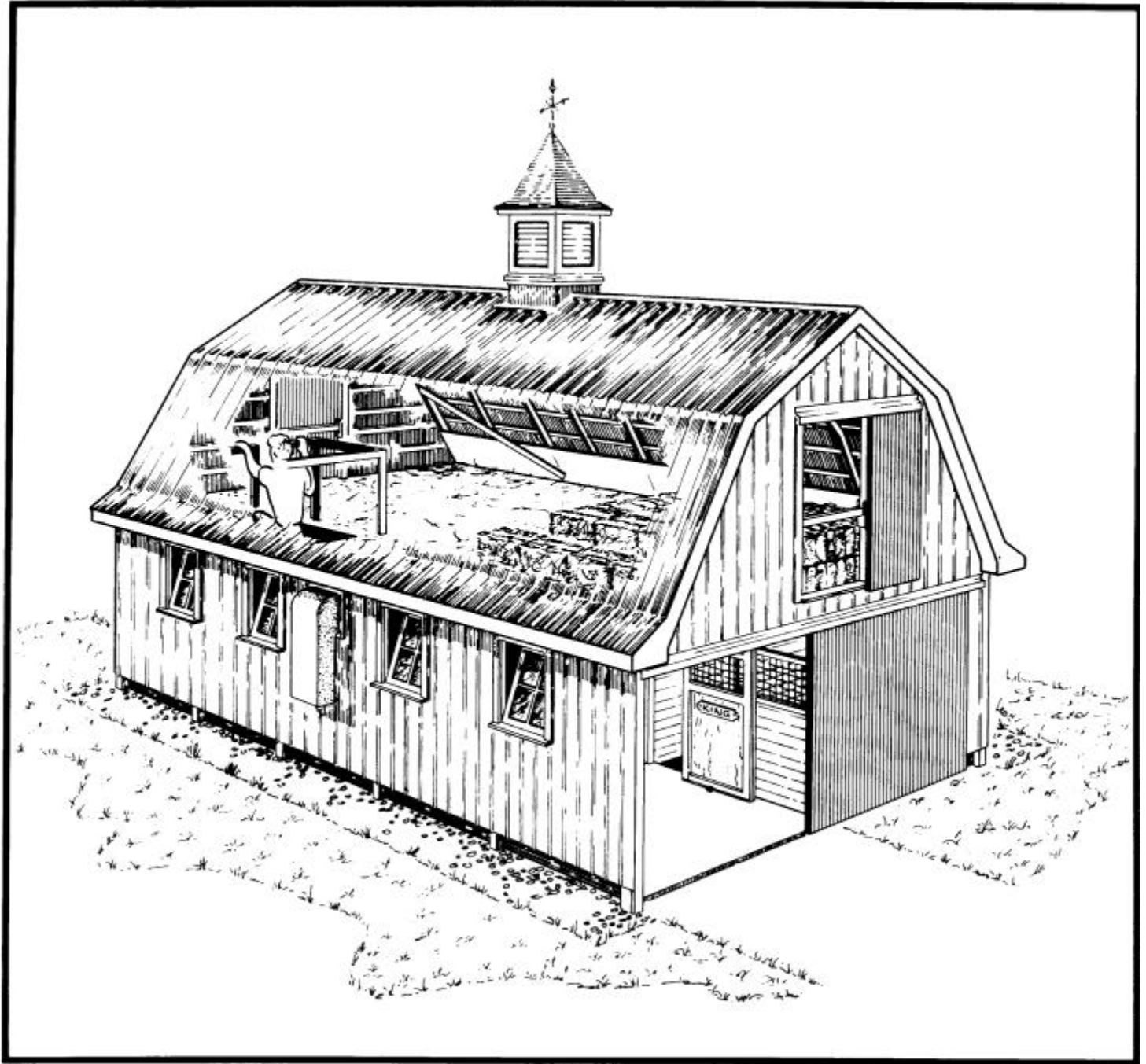


TWO-STORY HORSE BARN



The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture.

This leaflet gives management information and describes one of these detailed plans. To obtain a copy of the Canada Plan Service detailed plan, contact your local provincial agricultural engineer or extension advisor.

TWO-STORY HORSE BARN

PLAN M-8203 REV 85:03

This plan is for a 7.2 x 12 m (24 x 40 ft) barn for light horses. The floor layout is similar to plan 8201, with a tack room, small feed room, three box stalls and a wide work alley. A loft area provides overhead storage for hay and bedding.

CONSTRUCTION The exterior walls are of insulated pole frame construction using spaced 6 x 6 pressure-treated wood poles on concrete footings. Exterior wall plates notched into the tops of the poles support the ceiling joists and roof rafters. These ceiling joists are also supported near the building centerline by a beam and posts at the front of the box stalls. The plan shows how to lap the joists at mid-length and stagger the joints of the exterior wall plates to take advantage of the increased bending strength of members that are continued over supports.

Alternate details are given for a conventional concrete foundation with insulated stud walls.

BOX STALLS The 3 x 3.6 m (10 x 12 ft) box stalls feature earth floors and plank partitions. The open tops of the partitions are fitted with welded wire mesh for good ventilation. Each stall has a window protected by a wire mesh guard, and a sliding door that opens to the work alley.

TACK ROOM AND OFFICE The tack room provides for supplies and equipment. This area could also be converted into a fourth box stall.

FEED AND BEDDING STORAGE The feed room will store a limited amount of grain. Bales can be lifted by bale-elevator through a sliding door in each end-wall. A floor hatch and inside ladder give access for putting down hay and bedding. The roof is the traditional gambrel arch, a popular and economical way to build hay and bedding storage overhead. In winter, be careful to leave a deep layer of dry hay or bedding over the entire loft floor to insulate the warm stable below.

VENTILATION During mild and warm weather, ventilation can be supplied by opening windows and doors. The barn has a small two-speed fan controlled by a thermostat interlocked with electric heating. In cold weather, this automatically controls temperature with minimum heat waste. Because of the low cold weather ventilation rate required by the few horses in this building, adequate fresh air can be easily supplied by the small cracks around windows and doors. Be careful to weatherstrip or close off large cracks that could cause a draft by letting the fresh air in all at one point.

MANURE HANDLING AND STORAGE The wide work alley with a full-width sliding door at one end permits loading manure directly from the stalls into a trailer, spreader or truck box.

Check local regulations for storage and disposal of manure, and consider the following recommendations:

- Dispose of manure daily when possible.
Provide temporary storage for manure that cannot be disposed of daily; this requires at least 2 cu ft of storage per horse per day.
- Locate the storage in an approved safe area for convenient removal, away from any water source or natural drainage channels.
- Empty the storage at least weekly during fly-breeding season (from spring temperatures above 10°C until the first killing frost in the fall).
- Keep all runoff that may be polluted with animal waste from reaching water supplies.